



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,490	02/06/2004	Jayendra H. Bheda	2003/03	6636

7590 05/10/2006

Gregory N. Clements
KoSa
4501 Charlotte Park Drive
Charlotte, NC 28217-1979

EXAMINER

TOSCANO, ALICIA

ART UNIT	PAPER NUMBER
----------	--------------

1712

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,490

Applicant(s)

BHEDA ET AL.

Examiner

Alicia M. Toscano

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/6/04</u> | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 14 includes parenthesis, which make this claim indefinite with respect to the gas component. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2, 7, 8, 9, 13-16, 21, 22, 23, 27-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Huang. (US Patent No. 6,342,578)

Huang discloses a resin comprising the reaction product of a polyester with a cyclic anhydride, which may contain additives, as required by Claim 1. Huang further discloses the cyclic anhydride to be selected from the class consisting of succinic, glutaric, maleic and phthalic anhydride, as required by Claim 2, and the resin to be composed of terephthalate acid and ethylene glycol (Column 4 Line 22), as required in Claim 8. The amount of anhydride ranges from 0 to 200 microequivalents, (Column 11,

Table 6), as required by Claims 7 and 21. As required by Claim 9, Huang discloses the use of polyethylene terephthalate as the polyester resin as well as the use of 20 wt-% of isophthalic acid reacted with the polyethylene terephthalate resin to produce a copolymer (Column 4 Lines 54-57). The applicant uses the same anhydrides as Huang and thus the same melting point can be inferred, as required by Claims 13, 29 and 30. Huang discloses the said additives to be selected from a group consisting of pigments, dyes, fillers, branching agents (Column 5 Line 13-17), as required in Claim 14 and additives such as pigments, dyes and fillers are inferred to be nonreactive with the cyclic anhydride as required by Claim 27.

Huang discloses a method for producing polymer chips from said resin, as required by Claim 15. The cyclic anhydride used for this method is selected from the class consisting of succinic, glutaric, maleic and phthalic anhydride, as required by Claim 16. The chip is made by the polycondensation of diols and diacids, ethylene glycol and terephthalate acid (Column 4 Lines 20-24), as required by Claim 22. The polyester chip is disclosed to be made of polyethylene terephthalate or a copolyester of polyethylene terephthalate with up to 20 wt-% of isophthalic acid as required by Claim 23. The polyester chip could contain said additive from a group consisting of pigments, dyes, fillers, branching agents as required by Claim 28.

A container obtained from blow molding, a process disclosed by Huang, is indistinguishable to one produced by injection molding, the process disclosed by the applicant, and thus the examiner finds that Huang has met the requirements of Claims 32 and 33.

3. Claims 1, 2, 4, 15, 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Malhotra. (US Patent No. 5,663,029) Malhotra discloses a method for producing a recording sheet, or "film" which comprises a substrate with a polyester coating that is further reacted with an aromatic anhydride and contains an optional filler. (See Abstract and Column 51 Lines 39-40) Malhotra includes the use of phenyl glutaric anhydride and diphenic anhydride as required by Claims 4 and 18.

4. Claims 1, 2, 6, 15, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. (US Patent No. 6,372,813) Johnson disclose a method to produce a solid support, or "film" and a polymer hydrogel containing one or more reactive sites for the attachment of biomolecules. Said polymer is disclosed to be a polyester in Column 4 Line 60. The polymer is reacted with dimethyl maleic anhydride and maleic anhydride to create the said reactive site; an attachment point for the biomolecule, or "additive", as required by Claims 6 and 20.

5. Claims 1, 2, 8, 10, 15, 22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Pfaendner et al. (US Patent No. 5,693,681) Pfaendner disclose a process for increasing the molecular weight of polyesters by heating a polyester with a tetracarboxylic acid dianhydride, or "cyclic anhydride" and a hydroxyphenylalkylphosphonic acid ester, or "additive". Said polyester is disclosed to be PBT (Column 4 Line 41) as required by Claim 10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 11 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Yamamoto. (JP Patent No. 06100767A) Huang includes elements of the system as discussed above. Huang does not disclose the use of polyethylene naphthalate or a copolyester of a polyethylene naphthalate copolymer. Yamamoto teaches a resin of polyethylene naphthalate to be functionally equivalent to a resin formed by polyethylene terephthalate (See Abstract).

It would be obvious to one of ordinary skill in the art at the time of the invention to replace the polyethylene terephthalate in Huang with polyethylene naphthalate.

7. Claims 2, 3, 5, 6, 16, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Moeller. (US Patent No. 6,630,050) Huang includes elements of the system as discussed above. Huang does not include the use of substituted succinic anhydride, substituted phthalic anhydride or substituted maleic anhydride. Moeller teaches the use of cyclic anhydrides to introduce ion-forming structural elements on OH-terminated oligomers (Column 5 Lines 20-40). He discloses a range of anhydrides, which will form functionally equivalent end groups on the oligomers, which include tetrahydrophthalic anhydride, dimethyl maleic anhydride and dodecenyl succinic anhydride, as required in the above Claims.

It would be obvious to one of ordinary skill in the art at the time of the invention to interchange the above anhydrides with the anhydrides taught by Huang to tailor the reactivity of the cyclic anhydride with the polyester.

8. Claims 12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Saunders. Huang includes elements of the system as discussed above. Huang does not include the use of a polyamide. Saunders teaches that nylon 6 and nylon 6,6 are produced in large quantities and are substantially cheaper than other nylons (pg 192).

It would be obvious to one of ordinary skill in the art at the time of the invention to include in Huang the use of nylon 6 and nylon 6,6 as cheap alternatives for the polymer resin.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Toscano whose telephone number is 571-272-2451. The examiner can normally be reached on Monday to Friday 8:30 AM to 5 PM.

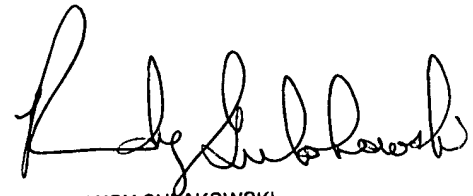
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AMT

Application/Control Number: 10/773,490
Art Unit: 1712

Page 8

A handwritten signature in black ink, appearing to read 'Randy Gulakowski', written in a cursive style.

RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700